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# RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/029,413A

DATE: 04/03/2002  
TIME: 11:08:45

Input Set : A:\EP.txt

Output Set: N:\CRF3\04032002\J029413A.raw

3 <110> APPLICANT: Malouf, Nadia  
4 Nichols, Timothy C.  
6 <120> TITLE OF INVENTION: Purified and Isolated Platelet Calcium Channel Nucleic Acids  
and  
7 Polypeptides and Therapeutic and Screening Methods Using Same  
9 <130> FILE REFERENCE: 421/29  
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/029,413A  
C--> 11 <141> CURRENT FILING DATE: 2002-03-21  
11 <160> NUMBER OF SEQ ID NOS: 29  
13 <170> SOFTWARE: PatentIn version 3.1  
15 <210> SEQ ID NO: 1  
16 <211> LENGTH: 5565  
17 <212> TYPE: DNA  
18 <213> ORGANISM: Homo sapiens  
20 <220> FEATURE:  
21 <221> NAME/KEY: CDS  
22 <222> LOCATION: (1)..(5565)  
23 <223> OTHER INFORMATION:  
26 <400> SEQUENCE: 1  
27 atg gag cca tcc tca ccc cag gat gaa ggc ctg agg aag aaa cag ccc 48  
28 Met Glu Pro Ser Ser Pro Gln Asp Glu Gly Leu Arg Lys Lys Gln Pro  
29 1 5 10 15  
31 aag aag cca gtt cct gag att ctg cca agg cca ccc cgg gct ttg ttc 96  
32 Lys Lys Pro Val Pro Glu Ile Leu Pro Arg Pro Pro Arg Ala Leu Phe  
33 20 25 30  
35 tgc ctg acc ctg gag aac ccc ctg agg aag gcc tgc atc agc att gta 144  
36 Cys Leu Thr Leu Glu Asn Pro Leu Arg Lys Ala Cys Ile Ser Ile Val  
37 35 40 45  
39 gaa tgg aag ccc ttc gag acg atc atc ttg ctc acc atc ttt gcc aat 192  
40 Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn  
41 50 55 60  
43 tgt gtg gcc ctg gcc gtg tac ctg ccc atg ccg gaa gat gac aac aac 240  
44 Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn  
45 65 70 75 80  
47 tct ctg aac ctc ggc ctg gag aag ctg gag tat ttc ttc ctc att gtc 288  
48 Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val  
49 85 90 95  
51 ttc tcy att gaa gcc gcc atg aag atc att gcc tac ggc ttc tta ttc 336  
52 Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe  
53 100 105 110  
55 cac cag gac gct tac ctg cgc agt ggc tgg aat gtg ctg gac ttc acc 384  
56 His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr  
57 115 120 125  
59 att gtc ttc ctg ggg gtc ttc acc gtg att ctg gaa cag gtt aac gtc 432

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 60  | Ile | Val | Phe | Leu | Gly | Val | Phe | Thr | Val | Ile | Leu | Glu | Gln | Val | Asn | Val |      |
| 61  |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |      |
| 63  | atc | caa | agc | cac | aca | gcc | cca | atg | agc | agc | aaa | gga | gcc | ggc | ttg | gat | 480  |
| 64  | Ile | Gln | Ser | His | Thr | Ala | Pro | Met | Ser | Ser | Lys | Gly | Ala | Gly | Leu | Asp |      |
| 65  | 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |      |
| 67  | gtc | aag | gcc | ctc | aga | gcc | ttc | cga | gtg | ctc | aga | ccc | ctc | cgg | ctg | gtg | 528  |
| 68  | Val | Lys | Ala | Leu | Arg | Ala | Phe | Arg | Val | Leu | Arg | Pro | Leu | Arg | Leu | Val |      |
| 69  |     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |      |
| 71  | tgc | ggg | gtg | cct | agc | ctg | cag | gtg | gtc | ctg | aac | tcc | atc | ttc | aag | gcc | 576  |
| 72  | Ser | Gly | Val | Pro | Ser | Leu | Gln | Val | Val | Leu | Asn | Ser | Ile | Phe | Lys | Ala |      |
| 73  |     |     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |      |
| 75  | atg | ctc | ccc | ctc | ttt | cac | atc | gcc | ctg | ctg | gtc | ctc | ttt | atg | gtc | atc | 624  |
| 76  | Met | Leu | Pro | Leu | Phe | His | Ile | Ala | Leu | Leu | Val | Leu | Phe | Met | Val | Ile |      |
| 77  |     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |      |
| 79  | atc | tat | gcc | atc | atc | ggg | ctg | gag | ctc | ttc | aag | ggc | aag | atg | cac | aag | 672  |
| 80  | Ile | Tyr | Ala | Ile | Ile | Gly | Leu | Glu | Leu | Phe | Lys | Gly | Lys | Met | His | Lys |      |
| 81  | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |      |
| 83  | acc | tgc | tac | ttc | att | ggt | aca | gat | atc | gtg | gcc | acg | gtg | gag | aat | gaa | 720  |
| 84  | Thr | Cys | Tyr | Phe | Ile | Gly | Thr | Asp | Ile | Val | Ala | Thr | Val | Glu | Asn | Glu |      |
| 85  | 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |      |
| 87  | gag | cca | tgc | ccc | tgc | gcc | agg | acg | ggc | tca | ggg | cgc | cgg | tgc | acc | atc | 768  |
| 88  | Glu | Pro | Ser | Pro | Cys | Ala | Arg | Thr | Gly | Ser | Gly | Arg | Arg | Cys | Thr | Ile |      |
| 89  |     |     |     | 245 |     |     |     |     |     | 250 |     |     |     | 255 |     |     |      |
| 91  | aat | ggc | agt | gag | tgc | cgg | ggc | ggc | tgc | cca | ggg | ccc | aac | cat | ggc | atc | 816  |
| 92  | Asn | Gly | Ser | Glu | Cys | Arg | Gly | Gly | Cys | Pro | Gly | Pro | Asn | His | Gly | Ile |      |
| 93  |     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |      |
| 95  | acc | cac | ttc | gac | aac | ttc | ggc | ttc | tcc | atg | ctc | acc | gtg | tac | cag | tgc | 864  |
| 96  | Thr | His | Phe | Asp | Asn | Phe | Gly | Phe | Ser | Met | Leu | Thr | Val | Tyr | Gln | Cys |      |
| 97  |     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |      |
| 99  | att | acc | atg | gag | gga | tgg | act | gac | gtc | ctt | tac | tgg | gtc | aat | gat | gcc | 912  |
| 100 | Ile | Thr | Met | Glu | Gly | Trp | Thr | Asp | Val | Leu | Tyr | Trp | Val | Asn | Asp | Ala |      |
| 101 |     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |      |
| 103 | atc | ggg | aat | gag | tgg | ccc | tgg | atc | tat | ttt | gtc | acc | ctc | att | ttg | ctg | 960  |
| 104 | Ile | Gly | Asn | Glu | Trp | Pro | Trp | Ile | Tyr | Phe | Val | Thr | Leu | Ile | Leu | Leu |      |
| 105 | 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |      |
| 107 | gga | tcc | ttc | ttc | atc | ctc | aac | ctg | gtg | ctg | ggt | gtc | ctg | agt | ggg | gaa | 1008 |
| 108 | Gly | Ser | Phe | Phe | Ile | Leu | Asn | Leu | Val | Leu | Gly | Val | Leu | Ser | Gly | Glu |      |
| 109 |     |     |     | 325 |     |     |     |     |     | 330 |     |     |     | 335 |     |     |      |
| 111 | ttc | acc | aag | gag | cgg | gag | aag | gcc | aag | tcc | agg | gga | acc | ttc | cag | aag | 1056 |
| 112 | Phe | Thr | Lys | Glu | Arg | Glu | Lys | Ala | Lys | Ser | Arg | Gly | Thr | Phe | Gln | Lys |      |
| 113 |     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |      |
| 115 | ctc | cgg | gag | aag | cag | caa | cta | gat | gag | gac | ctt | cgg | ggc | tac | atg | agc | 1104 |
| 116 | Leu | Arg | Glu | Lys | Gln | Gln | Leu | Asp | Glu | Asp | Leu | Arg | Gly | Tyr | Met | Ser |      |
| 117 |     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |      |
| 119 | tgg | atc | acg | cag | ggc | gag | gtc | atg | gat | gtt | gag | gac | ttc | aga | gaa | gga | 1152 |
| 120 | Trp | Ile | Thr | Gln | Gly | Glu | Val | Met | Asp | Val | Glu | Asp | Phe | Arg | Glu | Gly |      |
| 121 |     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |      |
| 123 | aaa | ctg | tct | ttg | gat | gaa | ggt | ggc | tct | gac | aca | gag | agc | ctg | tat | gaa | 1200 |
| 124 | Lys | Leu | Ser | Leu | Asp | Glu | Gly | Gly | Ser | Asp | Thr | Glu | Ser | Leu | Tyr | Glu |      |

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| 125 | 385 |     | 390 |     | 395 |     | 400 |     |     |     |     |     |     |     |     |     |      |
| 127 | att | gca | ggc | ttg | aac | aaa | atc | atc | cag | ttc | atc | cga | cat | tgg | agg | cag | 1248 |
| 128 | Ile | Ala | Gly | Leu | Asn | Lys | Ile | Ile | Gln | Phe | Ile | Arg | His | Trp | Arg | Gln |      |
| 129 |     |     |     |     | 405 |     |     |     | 410 |     |     |     |     |     | 415 |     |      |
| 131 | tgg | aac | cgc | atc | ttt | cgc | tgg | aag | tgc | cat | gac | atc | gtg | aag | tcc | aag | 1296 |
| 132 | Trp | Asn | Arg | Ile | Phe | Arg | Trp | Lys | Cys | His | Asp | Ile | Val | Lys | Ser | Lys |      |
| 133 |     |     |     |     | 420 |     |     |     | 425 |     |     |     |     | 430 |     |     |      |
| 135 | gtc | ttc | tat | tgg | ctg | gtg | att | ctc | atc | gtt | gcc | ctc | aac | acc | ctg | tct | 1344 |
| 136 | Val | Phe | Tyr | Trp | Leu | Val | Ile | Leu | Ile | Val | Ala | Leu | Asn | Thr | Leu | Ser |      |
| 137 |     |     |     |     | 435 |     |     |     | 440 |     |     |     |     | 445 |     |     |      |
| 139 | atc | gcc | tca | gag | cac | cac | aac | cag | ccg | cac | tgg | ctg | acc | cgt | ttg | caa | 1392 |
| 140 | Ile | Ala | Ser | Glu | His | His | Asn | Gln | Pro | His | Trp | Leu | Thr | Arg | Leu | Gln |      |
| 141 |     |     |     |     | 450 |     |     |     | 455 |     |     |     |     | 460 |     |     |      |
| 143 | gac | att | gcc | aac | cgg | gtg | ctg | ctg | tcc | ctc | ttc | acc | act | gag | atg | ctg | 1440 |
| 144 | Asp | Ile | Ala | Asn | Arg | Val | Leu | Leu | Ser | Leu | Phe | Thr | Thr | Glu | Met | Leu |      |
| 145 | 465 |     |     |     | 470 |     |     |     | 475 |     |     |     |     | 480 |     |     |      |
| 147 | atg | aag | atg | tac | ggg | ctg | ggc | ctg | cgc | cag | tac | ttc | atg | tct | atc | ttc | 1488 |
| 148 | Met | Lys | Met | Tyr | Gly | Leu | Gly | Leu | Arg | Gln | Tyr | Phe | Met | Ser | Ile | Phe |      |
| 149 |     |     |     |     | 485 |     |     |     | 490 |     |     |     |     | 495 |     |     |      |
| 151 | aac | cgc | ttc | gac | tgc | ttc | gtg | gtg | tgc | agc | ggt | atc | ctg | gag | atc | ctg | 1536 |
| 152 | Asn | Arg | Phe | Asp | Cys | Phe | Val | Val | Cys | Ser | Gly | Ile | Leu | Glu | Ile | Leu |      |
| 153 |     |     |     |     | 500 |     |     |     | 505 |     |     |     |     | 510 |     |     |      |
| 155 | ctg | gtg | gag | tcg | ggc | gcc | atg | aca | ccc | ctg | ggc | atc | tcc | gtg | ctc | cgc | 1584 |
| 156 | Leu | Val | Glu | Ser | Gly | Ala | Met | Thr | Pro | Leu | Gly | Ile | Ser | Val | Leu | Arg |      |
| 157 |     |     |     |     | 515 |     |     |     | 520 |     |     |     |     | 525 |     |     |      |
| 159 | tgc | atc | cgc | ctc | ctg | agg | atc | ttc | aag | atc | acc | aaa | tat | tgg | acg | tcg | 1632 |
| 160 | Cys | Ile | Arg | Leu | Leu | Arg | Ile | Phe | Lys | Ile | Thr | Lys | Tyr | Trp | Thr | Ser |      |
| 161 |     |     |     |     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     |      |
| 163 | ctg | agc | aac | ctg | gtg | gca | tcc | ctg | ctc | aac | tcc | atc | cgc | tcc | atc | gcc | 1680 |
| 164 | Leu | Ser | Asn | Leu | Val | Ala | Ser | Leu | Leu | Asn | Ser | Ile | Arg | Ser | Ile | Ala |      |
| 165 | 545 |     |     |     | 550 |     |     |     | 555 |     |     |     |     | 560 |     |     |      |
| 167 | tcc | ctg | ctg | ctg | ctg | ctc | ttc | ctc | ttc | atc | gtc | atc | ttc | cgc | ctc | ctg | 1728 |
| 168 | Ser | Leu | Leu | Leu | Leu | Phe | Leu | Phe | Ile | Val | Ile | Phe | Arg | Leu | Leu |     |      |
| 169 |     |     |     |     | 565 |     |     |     | 570 |     |     |     |     | 575 |     |     |      |
| 171 | ggc | atg | cag | ctc | ttt | ggg | ggg | agg | tat | gac | ttt | gaa | gac | aca | gaa | gta | 1776 |
| 172 | Gly | Met | Gln | Leu | Phe | Gly | Gly | Arg | Tyr | Asp | Phe | Glu | Asp | Thr | Glu | Val |      |
| 173 |     |     |     |     | 580 |     |     |     | 585 |     |     |     |     | 590 |     |     |      |
| 175 | cgg | cgc | agc | aac | ttt | gac | aac | ttt | ccc | caa | gcc | ctc | atc | agc | gtc | ttc | 1824 |
| 176 | Arg | Arg | Ser | Asn | Phe | Asp | Asn | Phe | Pro | Gln | Ala | Leu | Ile | Ser | Val | Phe |      |
| 177 |     |     |     |     | 595 |     |     |     | 600 |     |     |     |     | 605 |     |     |      |
| 179 | cag | gta | ctg | aca | ggg | gaa | gac | tgg | acc | tca | atg | atg | tac | aat | ggg | atc | 1872 |
| 180 | Gln | Val | Leu | Thr | Gly | Glu | Asp | Trp | Thr | Ser | Met | Met | Tyr | Asn | Gly | Ile |      |
| 181 |     |     |     |     | 610 |     |     |     | 615 |     |     |     |     | 620 |     |     |      |
| 183 | atg | gcc | tcg | agc | ggg | ccg | tcc | tac | cct | ggc | atg | ctt | gtg | tgc | att | tac | 1920 |
| 184 | Met | Ala | Ser | Ser | Gly | Pro | Ser | Tyr | Pro | Gly | Met | Leu | Val | Cys | Ile | Tyr |      |
| 185 | 625 |     |     |     | 630 |     |     |     | 635 |     |     |     |     | 640 |     |     |      |
| 187 | ttc | atc | atc | ctt | ttc | gtc | tgt | ggc | aac | tac | atc | ctg | ctc | aat | gtc | ttc | 1968 |
| 188 | Phe | Ile | Ile | Leu | Phe | Val | Cys | Gly | Asn | Tyr | Ile | Leu | Leu | Asn | Val | Phe |      |
| 189 |     |     |     |     | 645 |     |     |     | 650 |     |     |     |     | 655 |     |     |      |

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 191 | ctg | gcc | att | gcc | gtg | gac | aac | ctg | gcc | gag | gcg | gag | agc | ctg | act | tct | 2016 |
| 192 | Leu | Ala | Ile | Ala | Val | Asp | Asn | Leu | Ala | Glu | Ala | Glu | Ser | Leu | Thr | Ser |      |
| 193 |     |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |      |
| 195 | gcc | cag | aag | gcc | aag | gct | gag | gag | aaa | aaa | cgc | agg | aag | atg | tcc | aag | 2064 |
| 196 | Ala | Gln | Lys | Ala | Lys | Ala | Glu | Glu | Lys | Lys | Arg | Arg | Lys | Met | Ser | Lys |      |
| 197 |     |     | 675 |     |     |     |     | 680 |     |     |     |     |     | 685 |     |     |      |
| 199 | ggt | ctc | cca | gac | aag | tca | gaa | gag | gag | aag | tca | acg | atg | gcc | aag | aag | 2112 |
| 200 | Gly | Leu | Pro | Asp | Lys | Ser | Glu | Glu | Glu | Lys | Ser | Thr | Met | Ala | Lys | Lys |      |
| 201 |     |     | 690 |     |     |     |     | 695 |     |     |     |     |     | 700 |     |     |      |
| 203 | ctg | gag | cag | aaa | ccc | aag | ggt | gag | ggc | atc | ccc | acc | act | gcc | aag | ctg | 2160 |
| 204 | Leu | Glu | Gln | Lys | Pro | Lys | Gly | Glu | Gly | Ile | Pro | Thr | Thr | Ala | Lys | Leu |      |
| 205 | 705 |     |     |     |     |     | 710 |     |     |     |     |     |     | 715 |     | 720 |      |
| 207 | aaa | atc | gat | gag | ttt | gaa | tct | aat | gtc | aat | gag | gtg | aag | gat | ccc | tac | 2208 |
| 208 | Lys | Ile | Asp | Glu | Phe | Glu | Ser | Asn | Val | Asn | Glu | Val | Lys | Asp | Pro | Tyr |      |
| 209 |     |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |      |
| 211 | ccc | tca | gcc | gac | ttc | cca | ggg | gat | gac | gag | gaa | gat | gag | cct | gag | atc | 2256 |
| 212 | Pro | Ser | Ala | Asp | Phe | Pro | Gly | Asp | Asp | Glu | Glu | Asp | Glu | Pro | Glu | Ile |      |
| 213 |     |     |     | 740 |     |     |     |     |     | 745 |     |     |     |     | 750 |     |      |
| 215 | ccg | ctg | agc | ccc | cga | cca | cgt | ccc | ctg | gct | gag | ctg | cag | ctg | aaa | gag | 2304 |
| 216 | Pro | Leu | Ser | Pro | Arg | Pro | Arg | Pro | Leu | Ala | Glu | Leu | Gln | Leu | Lys | Glu |      |
| 217 |     |     | 755 |     |     |     |     | 760 |     |     |     |     |     | 765 |     |     |      |
| 219 | aag | gcc | gtg | ccc | att | cca | gaa | gcc | agc | tcc | ttc | ttc | atc | ttc | agc | ccc | 2352 |
| 220 | Lys | Ala | Val | Pro | Ile | Pro | Glu | Ala | Ser | Ser | Phe | Phe | Ile | Phe | Ser | Pro |      |
| 221 |     | 770 |     |     |     |     | 775 |     |     |     |     |     | 780 |     |     |     |      |
| 223 | acc | aat | aag | atc | cgt | gtc | ctg | tgt | cac | cgc | atc | gtc | aat | gcc | acc | tgg | 2400 |
| 224 | Thr | Asn | Lys | Ile | Arg | Val | Leu | Cys | His | Arg | Ile | Val | Asn | Ala | Thr | Trp |      |
| 225 | 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |      |
| 227 | ttc | acc | aac | ttc | atc | ctg | ctc | ttc | atc | ctg | ctc | agc | agc | gct | gca | ctg | 2448 |
| 228 | Phe | Thr | Asn | Phe | Ile | Leu | Leu | Phe | Ile | Leu | Leu | Ser | Ser | Ala | Ala | Leu |      |
| 229 |     |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |      |
| 231 | gct | gcg | gaa | gac | ccc | atc | cgg | gct | gat | tcc | atg | aga | aat | cag | atc | ctt | 2496 |
| 232 | Ala | Ala | Glu | Asp | Pro | Ile | Arg | Ala | Asp | Ser | Met | Arg | Asn | Gln | Ile | Leu |      |
| 233 |     |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |      |
| 235 | aaa | cac | ttt | gac | atc | ggg | ttc | acc | tct | gtc | ttc | act | gtg | gag | att | gtc | 2544 |
| 236 | Lys | His | Phe | Asp | Ile | Gly | Phe | Thr | Ser | Val | Phe | Thr | Val | Glu | Ile | Val |      |
| 237 |     |     | 835 |     |     |     |     | 840 |     |     |     |     |     | 845 |     |     |      |
| 239 | ctc | aag | atg | acg | acc | tac | gga | gcc | ttc | ctg | cac | aag | ggt | tcc | ttc | tgc | 2592 |
| 240 | Leu | Lys | Met | Thr | Thr | Tyr | Gly | Ala | Phe | Leu | His | Lys | Gly | Ser | Phe | Cys |      |
| 241 |     | 850 |     |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |      |
| 243 | cgc | aat | tac | ttc | aac | atg | ctg | gac | ctg | ctg | gtg | gtg | gcc | gtg | tcc | ctc | 2640 |
| 244 | Arg | Asn | Tyr | Phe | Asn | Met | Leu | Asp | Leu | Leu | Val | Val | Ala | Val | Ser | Leu |      |
| 245 | 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     | 880 |      |
| 247 | atc | tcc | atg | gga | ctt | gag | tcc | agt | gcc | atc | tcc | gtg | gtg | aag | atc | ctg | 2688 |
| 248 | Ile | Ser | Met | Gly | Leu | Glu | Ser | Ser | Ala | Ile | Ser | Val | Val | Lys | Ile | Leu |      |
| 249 |     |     |     |     | 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |      |
| 251 | agg | gtg | ctg | agg | gtg | ctc | cga | cca | ctc | aga | gcc | atc | aac | aga | gcc | aag | 2736 |
| 252 | Arg | Val | Leu | Arg | Val | Leu | Arg | Pro | Leu | Arg | Ala | Ile | Asn | Arg | Ala | Lys |      |
| 253 |     |     |     | 900 |     |     |     |     | 905 |     |     |     |     |     | 910 |     |      |
| 255 | ggg | ttg | aag | cac | gtg | gct | agg | tgc | atg | ttc | gtg | gcc | atc | agc | acc | atc | 2784 |

## RAW SEQUENCE LISTING

DATE: 04/03/2002

PATENT APPLICATION: US/10/029,413A

TIME: 11:08:45

Input Set : A:\EP.txt

Output Set: N:\CRF3\04032002\J029413A.raw

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256 Gly Leu Lys His Val Ala Arg Cys Met Phe Val Ala Ile Ser Thr Ile
257          915          920          925
259 ggg aac atc gtg ctg gtc act acc ctc cta cag ttc atg ttt gcc tgc      2832
260 Gly Asn Ile Val Leu Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys
261          930          935          940
263 atc ggc gtc cag ctc ttc aag ggg aag ttc ttc agg tgc acc gac ttg      2880
264 Ile Gly Val Gln Leu Phe Lys Gly Lys Phe Phe Arg Cys Thr Asp Leu
265 945          950          955          960
267 tcc aag atg aca gag gag gag tgc agg ggc tac tac tac gtg tac aag      2928
268 Ser Lys Met Thr Glu Glu Glu Cys Arg Gly Tyr Tyr Tyr Val Tyr Lys
269          965          970          975
271 gac ggg gac ccc atg cag ata gag ctg cgt cac cgc gag tgg gta cac      2976
272 Asp Gly Asp Pro Met Gln Ile Glu Leu Arg His Arg Glu Trp Val His
273          980          985          990
275 agc gac ttc cac ttc gac aat gtg ctc tca gcc atg atg tcc ctc ttc      3024
276 Ser Asp Phe His Phe Asp Asn Val Leu Ser Ala Met Met Ser Leu Phe
277          995          1000          1005
279 acg gtc tcc acc ttc gag gga tgg cct cag ctg ctg tac aag gcc      3069
280 Thr Val Ser Thr Phe Glu Gly Trp Pro Gln Leu Leu Tyr Lys Ala
281          1010          1015          1020
283 ata gac tcc aat gcg gag gac gtg ggt ccc atc tac aac aac cgt      3114
284 Ile Asp Ser Asn Ala Glu Asp Val Gly Pro Ile Tyr Asn Asn Arg
285          1025          1030          1035
287 gtg gag atg gcc atc ttc ttc atc atc tac atc atc ctc att gcc      3159
288 Val Glu Met Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu Ile Ala
289          1040          1045          1050
291 ttc ttc atg atg aac atc ttt gtg ggc ttc gtc att gtc acc ttc      3204
292 Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe
293          1055          1060          1065
295 cag gag cag gga gag act gag tac aag aac tgt gag ctg gac aag      3249
296 Gln Glu Gln Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys
297          1070          1075          1080
299 aac cag cgc caa tgt gta cag tat gcc ctg aag gcc cgc cca ctg      3294
300 Asn Gln Arg Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu
301          1085          1090          1095
303 agg tgc tac att ccc aaa aac cca tac cag tac cag gtg tgg tac      3339
304 Arg Cys Tyr Ile Pro Lys Asn Pro Tyr Gln Tyr Gln Val Trp Tyr
305          1100          1105          1110
307 att gtc acc tcc tcc tac ttt gaa tac ctg atg ttt gcc ctc atc      3384
308 Ile Val Thr Ser Ser Tyr Phe Glu Tyr Leu Met Phe Ala Leu Ile
309          1115          1120          1125
311 atg ctc aac acc atc tgc ctc ggc atg cag cac tac aac cag tgc      3429
312 Met Leu Asn Thr Ile Cys Leu Gly Met Gln His Tyr Asn Gln Ser
313          1130          1135          1140
315 gag cag atg aac cac atc tca gac atc ctc aat gtg gcc ttc act      3474
316 Glu Gln Met Asn His Ile Ser Asp Ile Leu Asn Val Ala Phe Thr
317          1145          1150          1155
319 atc atc ttc acc ctg gag atg atc ctc aag ctc atg gcc ttc aag      3519
320 Ile Ile Phe Thr Leu Glu Met Ile Leu Lys Leu Met Ala Phe Lys

```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/029,413A

DATE: 04/03/2002

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Input Set : A:\EP.txt

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L:11 M:270 C: Current Application Number differs, Replaced Current Application No  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:2149 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:5  
L:2182 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:6  
L:2208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:2212 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:2221 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:7  
L:2252 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:8  
L:2283 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:2395 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2396 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2443 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2447 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2448 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2451 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2452 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2455 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2456 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2459 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2460 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2463 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2467 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2468 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2655 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2656 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2659 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2660 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2663 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2664 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2667 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2671 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2672 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2675 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2676 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2679 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2680 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:2684 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:4167 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4215 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4223 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4227 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4235 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10

## VERIFICATION SUMMARY

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Input Set : A:\EP.txt

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L:4239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4427 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4431 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4435 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4439 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4443 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4447 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:4451 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:11633 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:23  
L:11669 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:25